

2-Shot Overmolding Thermoplastics / Elastollan TPU without Plasma - Treatment

Thermoplastics	Elastollan [®]
PA 6	good bonding
PC, PC / ABS	good bonding
ABS, SAN, ASA	good bonding
PA 6.6, PA 12	poor bonding
PBT	poor bonding
PE, PP, PS	no bonding
POM	no bonding

2-Shot Overmolding Thermoplastics / Elastollan TPU after Plasma - Treatment

Thermoplastics	TPU / no Plasma	TPU / with Plasma
PA 6	good bonding	perfect bonding
PC, PC / ABS	good bonding	perfect bonding
ABS, SAN, ASA	good bonding	perfect bonding
PA 6.6, PA 12	poor bonding	good bonding
PBT	poor bonding	perfect bonding
PE, PP, PS	no bonding	good bonding
POM	no bonding	poor bonding

Matrix of Bonding Thermoplastics - Elastollan TPU from BASF Corporation

Thermoplastic	TPU (Elastollan)	with Plasma-treatment															
ABS		P	<table border="1" style="width: 100%;"> <thead> <tr> <th colspan="2">Description</th> </tr> </thead> <tbody> <tr> <td style="background-color: #0000FF; color: white;">P</td> <td>Plasmatreated (excellent Bonding)</td> </tr> <tr> <td style="background-color: #00FF00;"></td> <td>excellent Bonding</td> </tr> <tr> <td style="background-color: #90EE90;"></td> <td>good Bonding</td> </tr> <tr> <td style="background-color: #FFFF00;"></td> <td>Bonding</td> </tr> <tr> <td style="background-color: #FFA500;"></td> <td>light Bonding</td> </tr> <tr> <td style="background-color: #FF0000;"></td> <td>no Bonding</td> </tr> </tbody> </table>	Description		P	Plasmatreated (excellent Bonding)		excellent Bonding		good Bonding		Bonding		light Bonding		no Bonding
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	excellent Bonding																
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	light Bonding																
	no Bonding																
ABS/PC		no P															
PA 6		P															
PA 6 25GF		P															
PA 6.6		P															
PA 6.6 25GF		P															
PBT		P															
PC		no P															
PS		P															
SAN		P															
PP		P															

Elastollan TPU Bonding Study

Material	TPE			Elastomers			
	SEBS	TPU	PP/EPDM	EPDM	NR	SBR	LSR
Premolding							
ABS							
PA 6							
PA 66							
PA 6 12							
PBT							
PC							
PMMA							
POM							
PP							
mPPE							
SAN							

Good Bonding

Poor Bonding

No Bonding

ELASTOLLAN TPU WELD-LINE BOND STRENGTH STUDY

ELASTOLLAN TPU MOLDED FIRST						
MATERIALS	1180A	1185A	C78A	C85A	S85A	SP876
PVC	7	6	9	8	7	9
PMMA	5	8	6	4	8	5
ASA	7	8	8	8	6	8
SAN	8	9	8	7	9	10
PS	N.G.	N.G.	N.G.	N.G.	N.G.	N.G.
ABS	7	9	8	8	8	10
PA 6	8	11	9	9	14	10
PC/ABS	4		3			3
PA 66	7	9	8	6	9	7
PA 12	8	10	7	7	6	8
PBT/ASA	7	8	7	6	7	8
PBT	7	8	6	6	8	8
POM	N.G.	N.G.	N.G.	N.G.	8	6
PC	7	7	9	5	9	10
ASA/PC	5	5	6	4	7	N.B.
TEEE	8					
PEBA	9	N.B.	9	4	12	10

Units = N/mm²

N.B. = No Break

N.G. = No Grip/No Bond

Reference Test Method - Iso 527-2/1A, 200 mm/min (Tensile Test)

ELASTOLLAN TPU WELD-LINE BOND STRENGTH STUDY

ELASTOLLAN TPU MOLDED SECOND						
MATERIALS	1180A	1185A	C78A	C85A	S85A	SP876
PVC		9	3		6	10
PMMA	5	5	5		7	7
ASA	4	5	4		6	5
SAN	6	9	8		7	8
PS	5	N.G.	N.G.		N.G.	N.G.
ABS	7	6	6		6	9
PA 6		6	4		6	6
PC/ABS	4		3			3
PA 66	6	N.G.	N.G.	N.G.	N.G.	N.G.
PA 12	6	6	5		5	7
PBT/ASA		4	4		N.G.	5
PBT	5	4	4		N.G.	6
POM	4	N.G.	N.G.		N.G.	N.G.
PC	7	4	10		8	6
ASA/PC	N.G.	N.G.	N.G.		N.G.	N.G.
TEEE	6		3			
PEBA	8	11	8		8	9

Units = N/mm²

N.B. = No Break

N.G. = No Grip/No Bond

Reference Test Method - Iso 527-2/1A, 200 mm/min (Tensile Test)